Electricity on the Farm

A MONTHLY MAGAZINE FOR THE UP-TO-DATE RURAL FAMILY

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MARCH
1936

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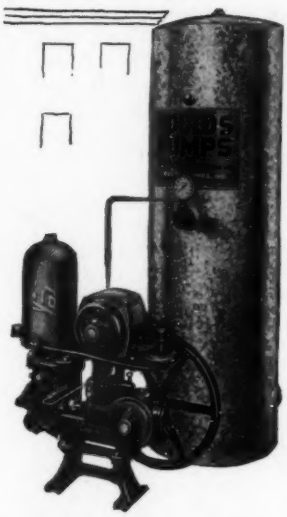

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6945

March, 1936

Electricity on the Farm

Vol. 9, No. 3

EDITORIAL

PREVENTING INTERRUPTIONS

With rushing winds and glowing skies,
The dark and stubborn Winter dies:
Far off, unseen, Spring faintly cries,
Bidding her earliest child arise:
March!

BAYARD TAYLOR, 1825-1878.

March, in reality, marks the beginning of spring farm operations. It is true that the field work will not start for fully a month more. But there is a great deal of preliminary work which is necessary before field work starts. It has always been said that the summer is too short for all the work that must be crammed into it. But if equipment is in first class shape and if interruptions incidental to repairing it during the outdoor season are eliminated, the summer rush will be eased materially and more and better work can be accomplished.

Where farm equipment has stood through the winter, and in many cases has been exposed to weather, parts are stiff and bearing surfaces are dry. Even rust may have formed on the moving parts. Though equipment is lubricated immediately before starting operations, the chances of breakage are real when work is started.

It is in guarding against just such interruptions that preparatory work proves its worth.

Equipment which is carefully inspected, carefully lubricated and cleaned up stands a far better chance of serving throughout the season without breakdown than does equipment which has been neglected through the winter months and then suddenly put into operation when weather conditions permit.

No unit around the farm is more profitable, if properly employed, than the workshop. Here in the early spring days machinery can be overhauled, oiled and made fit for heavy work. Where electricity is available, the work is tremendously simplified through the excellent light it provides for working around the machines indoors, and through the power it provides for driving appliances which may be required for reconditioning or servicing cultivating, seeding, harvesting and other machinery. Power driven steel brushes can do can do wonders in brightening up rusted machines. Power driven drill presses simplify the work of repairing and strengthening mowers, reapers and other equipment which can ill-afford to be put out of service by breakage during harvesting periods.

An electrically driven blower for the forge makes blacksmithing an enjoyable task, particularly where good light is provided by electric service.

The difference between a good year and a bad year may sometimes be traced directly to pre-season servicing of equipment. The farmer having electric service available has a much better chance of avoiding work interruptions during the busy season than the farmer not so provided.

FRED SHEPPERD.

Issued Monthly by
CASE-SHEPPERD-MANN PUBLISHING CORP.
Editorial-Executive Offices: 24 West 40th Street, New York
KARL M. MANN, *President* — I. H. CASE, *Vice-Pres. and Gen'l Mgr.*
FRED SHEPPERD, *Editorial Director* — JESSE H. NEAL, *Vice-President*
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CHICAGO: 6 No. Michigan Ave.—W. S. CLEVENGER, Western Manager; L. M. ROCHE, Western Representative
SAN FRANCISCO: 444 Market St., Room 305—C. H. WOOLLEY
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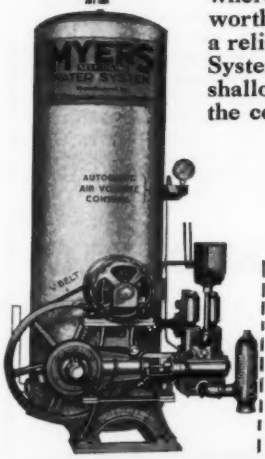

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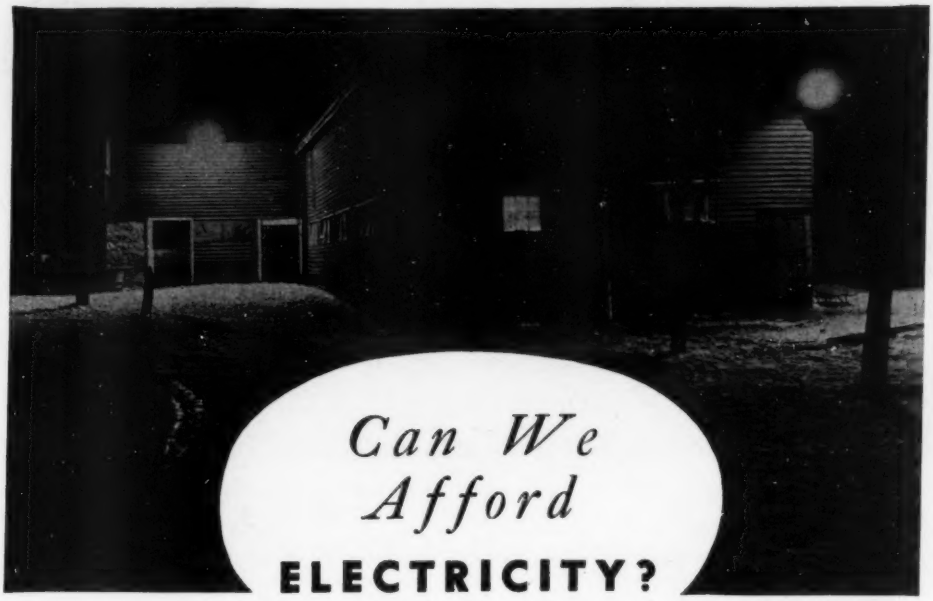
Yard lights afford protection as well as hasten completion of after-dusk chores.



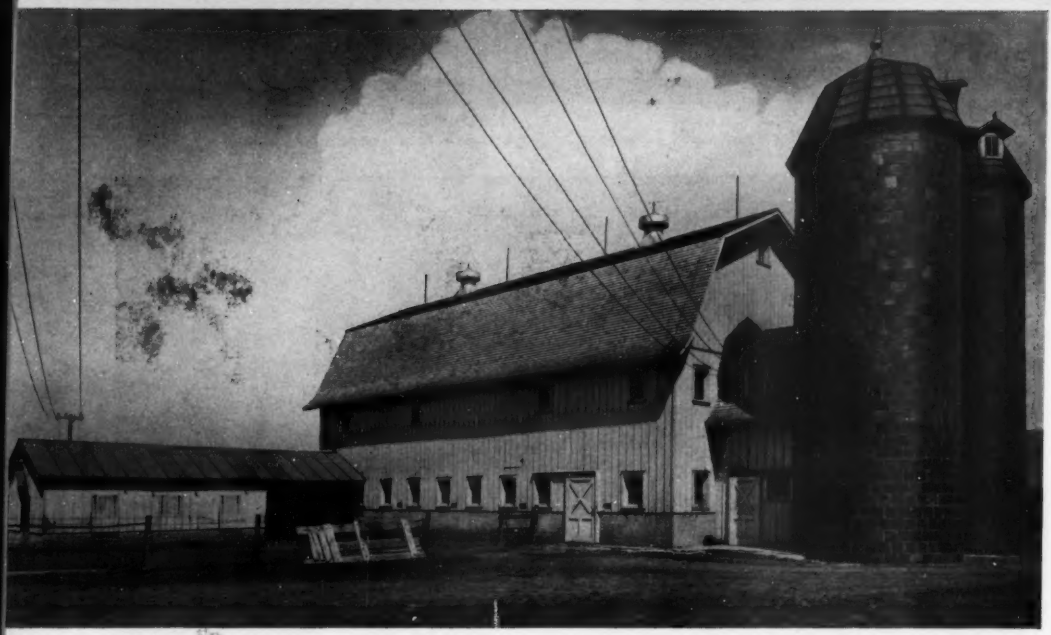
Can We Afford ELECTRICITY?

By H. J. GALLAGHER

RECENTLY I had the pleasure of discussing rural electrification before a group of seventy-five farmers. The section of the state in which they live has the classification of semi-marginal agriculture. It was obvious the group was interested in rural electrification, otherwise they would not have attended the meeting. To be further assured in this respect I started the discussion by asking those who wanted electric service to raise their hand. Seventy-six hands were raised; one person wanted it badly enough to raise both hands. I then asked the question "How many would be willing to pay five dollars a month for enough energy to furnish lights, operate the radio, iron, washing machine, and pump the water?" Not a single hand was raised. On the question "How many would be willing to pay three dollars?" twenty-two hands, representing less than one-third of the group, were raised. The next question concerning their willingness to pay one dollar a month received a more favorable response. The entire group was willing to pay one dollar. Further inquiry revealed they were wondering where the three or five dollars would come from to pay for service even if it were available.

In many respects this was a typical farm meeting in which the group desired something that they didn't think they could afford. They were rather reluctant to recognize that the building of farm

Electric service provides a convenient power supply for the radio, which gives market reports as well as entertaining programs.



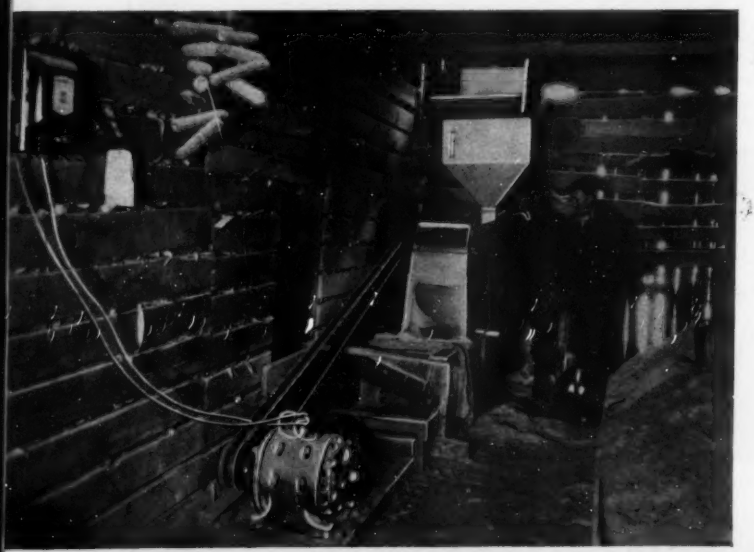
Electric service in the barn means more efficient handling of routine work and the saving of time and labor.

lines is a costly program and that a very definite expense is associated with rendering electric service to any group of customers and particularly rural customers.

After it was generally decided that more than two-thirds of those present could not afford to pay as much as three dollars a month for electricity, we began to make an analysis of the ordinary expenditures they were already making for the things that electricity would replace and furnish a much greater value in addition. It was the general consensus of opinion that the average cost for kerosene lighting was one dollar a month; that gasoline for pumping and other gas engine operations accounted for another dollar and that it required about one dollar to keep the radio battery charged. Other expenses of a less universal nature were added to the list until it was determined to the satisfaction of all present that, even though they couldn't afford to spend three dollars a month for electricity, they were already spending on an average of three dollars and fifty cents each month and getting very little in return, whereas the same expenditure for electric service would give them infinitely more.

In reality, instead of not being able to afford electric service, they could ill afford not to have it.

Cutting further into the strata of human characteristics, the dollar that is spent here and the fifty cents there at odd times throughout the month



The electric motor and feed mill take many of the aches out of feed grinding and assure a freshly ground supply as required.

is given little consideration. Yet when the electric bill arrives, even though it totals less for greater value than under other methods, there is a cry raised to the heavens of high costs. This applies not only to some farmers but to any group of electric customers. Few of us are honest enough with ourselves to acknowledge in dollars and cents the value of our electric service to us; in fact, but few of us could afford to have equivalent value in anything else BUT ELECTRICITY.

It is true some rates are higher than others; some rates must necessarily be higher than others. The price of a Ford car in California is considerably higher than the price of the same car in Detroit. The reason is readily apparent. Differences in rates are less apparent. It is also true that there are some electric rates that are too high.

How many of us could afford the help in the household that is included in our electric bill? The time, labor, and conveniences about the farm that are a part of the same bill? Solomon in all his glory, or Midas with all his gold couldn't have the same comforts and conveniences that electricity brings to the most humble home, be it city or farm.

At the present time, not including household operations, there are over one-hundred uses of electricty that have resulted in tangible money earning or money saving enterprises on the farm, uses that make electricity highly profitable and services that would cost considerably more in any form other than electric. Not all of these uses would be applicable to any one farm but enough are applicable to every farm to make electric service a self sustaining proposition.

When a farm group demands farm electrification, do they really mean it, or are they thinking merely of electric lighting? Electric lighting is not farm electrification; it is a very definite and important part of farm electrification, but hardly important enough to justify all of the costs involved. Farm electrification is the use of energy in sufficient quantity to justify the building of the line and the wiring of the buildings. Who builds the line is of minor importance. An electric line is good for only one purpose, transmitting energy, and if it fails in that respect it is a liability.

A larger percentage of farmers have radios, automobiles, and other things than electricity. In the purchase of a radio or an automobile the cost bears little relation as to whether the neighbors have the same thing or not. The cost of securing electric service has a decided relationship to the number of neighbors who take service.

The purchase of an automobile is a major investment that is given careful consideration as to its utility value, time, and labor saving advantages. Securing electric service is also a major and a more permanent investment that usually receives too little consideration as to its utility and associated values—a major investment that is given minor consideration.

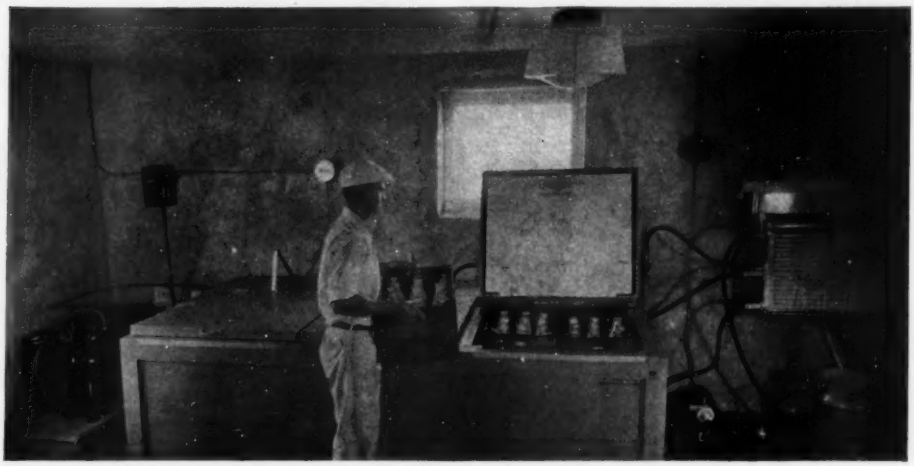
Today practically everyone interested in agriculture is endeavoring to extend electric service to the farm, with the general exception of the farmer himself. By that I mean there are enough farmers in nearly every community that retard or prohibit the extension of lines. They either refuse to take service or to proceed in harmony with the large majority, and thus keep the cost of service higher, or they refuse to grant right-of-way or other concessions that are essential in the extension of rural lines.

If a semi-marginal agricultural area, even though it doesn't recognize the fact, supports a poor substitute for electric service in the form of kerosene, gasoline and other related expenditures, the vast areas of productive agriculture are really supporting exhorbitant expenses by the lack of farm electrification.

Farm electrification isn't so much a question of whether we can afford electricity; rather, it is a question of whether we can afford to be without it.

To cite an illustration that has come to my

Milk cooling equipment is essential to the dairyman who desires to get top-notch prices for his products.



attention; that of a dairy farmer who for a number of years has been feeding an average of one ton of ground grain a week. His former custom mill grinding costs were $2.00 a ton. For the past five years he has been grinding electrically on his farm at a cost for energy of $0.40 per ton. The result is a saving of $1.60 a week, or $6.93 a month. His bills for electric service last year averaged $5.42 a month. Under the old program he was paying $8.66 a month merely for grinding. Lighting, refrigeration, gasoline, etc., were additional costs.

Under his electric program he is paying $5.42 which includes grinding and elevating the grain, pumping the water, running small motors in the farm shop, lighting the house and two barns, operating the refrigerator, using the washing machine, iron, radio, and other appliances.

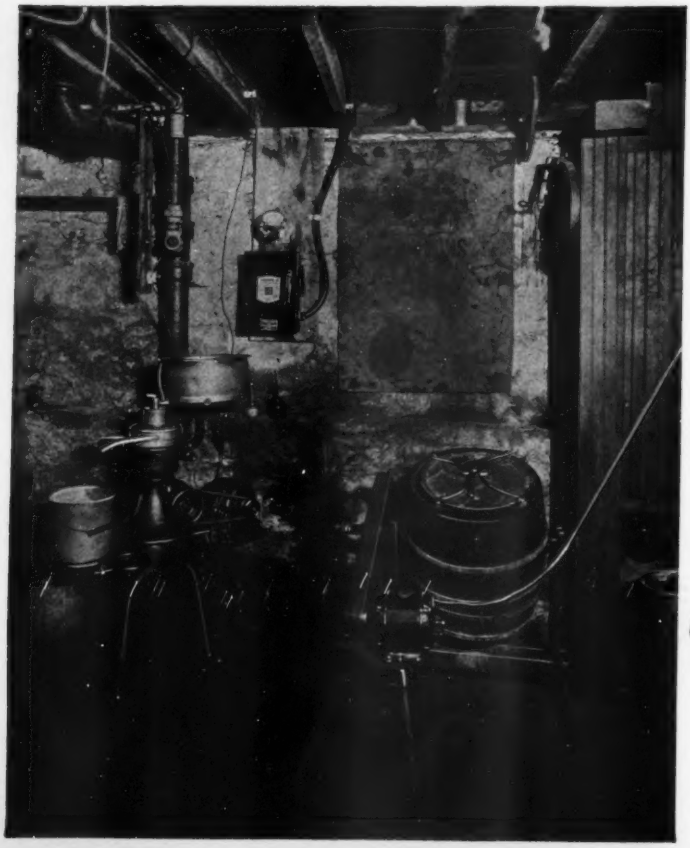
The difference between the former cash cost of grinding at $104 a year and the present electric bill of $65.04 a year is $38.96, the equivalent of six percent interest on an investment of $649.33.

This farmer analyzed his problem in a business-like manner. He regarded electric service as an investment. He was more interested in the expenses his electric bill would reduce than in viewing the monthly bill as an added expense. He placed the horse before the cart instead of placing the cart before the horse as is so often done.

My own farm of 100 acres is being operated by a tenant on a share basis. He has been with me three years and I hope he stays much longer. He is a good man and good tenants are few and far between. Running water in the house and electric service are two of the things that help keep him on our farm even though he has had several excellent opportunities to go on larger and better farms.

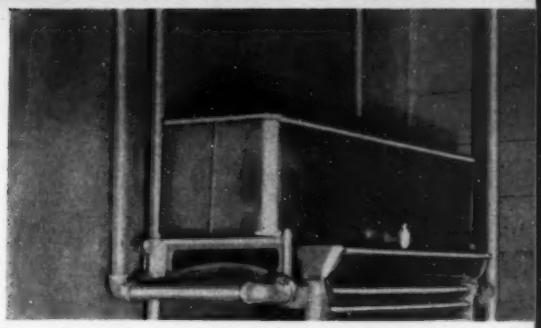
When he first considered going in business with me, and a tenant really is a business partner, he requested that I have the electric service disconnected. He said "I can't afford that stuff." I didn't argue the point other than to tell him to use the service at my expense until I had it discontinued. After he had been on the farm two months I notified him that I was ready to have the electric service cut. In the meantime he had begun to appreciate the advantages of electricity. When I informed him that the bill for two months for lighting and pumping the water was only a matter of $4.00 he was utterly astonished as he had viewed electricity as a rich man's luxury rather than as a tenant farmer's aid. Since then he has paid the electric bill and has added feed grinding, the radio, iron, washing machine and cooking to his uses. The electric cooking is limited to summer use on a three burner table stove that replaced the kerosene stove. The grinding is done by a 4½ inch burr mill and ½ H.P. motor. The motor is also used for a number of purposes other than grinding. He often laughs at his former conception of electric costs. His cash saving over other methods is more than twice his electric bill. Who wouldn't laugh?

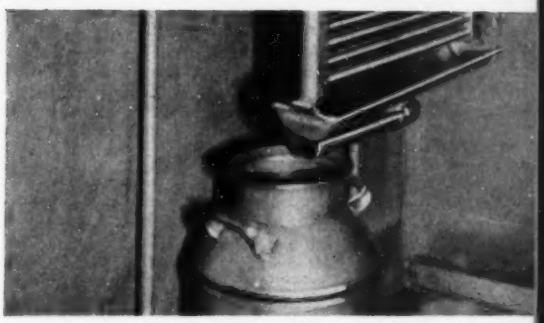
Whether the farm is three acres in size, 100 acres or 500 acres, tenant farm or operated by the owner, electricity will furnish more for less money than is now being spent for the things electricity will do.



Small motors are adaptable to many tasks such as cream separating and churning.

THERE'S MONEY in COOL MILK





Surface cooler at the Maple Drive Dairy.

By E. R. MEACHAM

JUST above the spreading marshes to the west of Lake Waubesa lie the gently rolling acres of Ben Libby. He is one of the producers for the Guernsey milk market at Madison. These men sell their milk in cans at the farm, but in addition to other requirements, the milk must contain less than 50,000 bacteria per cubic centimeter when tested at the distributor's plant.

I asked Mr. Libby how he does it.

"It's very simple," he said. "We use heat to clean our tinware and power to cool our milk."

This power operates cooling equipment that is compact and convenient. First there is an air cooled, motor driven refrigeration unit. Standing right beside it is a well insulated metal jacketed tank. There are two compartments in the tank—the smaller will hold two 10-gallon cans and the larger, four. Inside the larger compartment and completely surrounding the space for the cans are the expansion or evaporator coils of the refrigeration machinery. There is also a pump to circulate water from the smaller to the larger vat. Except for the controls, that is all there is to the outfit.

"And, it's very easy to use," Mr. Libby explained. "Years ago we tried to get along with water for cooling, but that won't fill the bill any more. Then we used ice. The milk plant furnished it at a reasonable price and the hauler brought it out to us. But he didn't enjoy doing it, and it was a lot of work for us, too. So last spring we went over to see Robert Eby's cooler. He praised it so highly that we bought an outfit just like his. The first cost was quite an item, but the higher price of this grade of milk makes it a good investment. Now that we have used it a year, we find it better than water and cheaper than ice."

Mr. Libby's story made me anxious to talk with Mr. Eby who had used a cooler longer and whose enthusiasm had certainly sold his neighbor on the electric method. Mr. Eby was away when I stopped there one Saturday, but Mrs. Eby is just as enthusiastic about the cooler and she told me how it saves them time and money.

Agreeing with Mr. Libby but interchanging the advantages of electric cooling, she remarked, "it is better than ice, and for us, it is actually cheaper than water. Being up here on the hill, our well is very deep, and the supply of water is not too plentiful at that. Using water alone we never could get the milk as cold as we do this way. Even to cool it and hold it at 55 degrees would take a lot of water. We figure it would actually cost more to pump it than it does to run this refrigeration unit."

"How about ice?" I inquired.

"We used to bring it out from town, 300 pounds at a time. Ice was expensive and a lot of work to handle. But worst of all, after a hot day, and especially a hot night, sometimes there wasn't enough ice left to cool the morning milk. This is always ready. I'll show you how it works."

Following her into their sunny milk room and lifting the cover of the tank, I noticed that the larger compartment was level full of water.

"That is so the coils can freeze a thick layer of ice around the tank, clear to the top," Mrs. Eby explained. The thermostat doesn't start the compressor till the water warms up to 42 degress, but then it runs until quite a lot of ice forms on the pipes."

When even one can of milk is set into this full tank, the ice cold water comes right up to the neck of the can. Of course the tank overflows into the smaller compartment, but that water is not wasted. It is pumped back into the bottom of the full tank, which continues to overflow as long as the pump runs. That can be regulated by setting the little time switch on the pump motor for any period up to the hour. At the full capacity of the tank circulating the water over the ice

and among the cans for an hour thoroughly chills the milk. Then the motor stops and the tank keeps the milk cold until delivery.

"We wouldn't enjoy giving up any of our electric appliances," said Mrs. Eby. "But this is a matter of business. To us cool milk means clear money."

For market milk sold to the distributor in 10-gallons, that simple outfit and easy method solve the cooling problem perfectly. The two jobs of cooling the milk quickly and then holding it in cold storage till the truck comes are both done automatically with no more labor than the turning of a switch.

Equipment for Retail Dairymen

The man with a retail milk route who bottles his product and stores it in cases needs quite different equipment. Such man is Vernon Kahl of the Maple Drive Dairy. I knew that Mr. Kahl ran a first class milk route in Verona and that he had an attractive layout of buildings on his farm about a mile west of town. But I hadn't seen his modern cooling outfit until I stopped there one night about a month ago. Then he took me into his tidy milkroom and told me all about it.

"When we bring in a can of warm milk," said he, "we empty it into this tank above the tubular cooler. Then we open the spigot enough to let it trickle quite slowly down over the cooler pipes."

"Is there brine in the pipes?" I asked.

"No," he replied. "Just water fresh from the well. It is very cold and we have plenty of it so by running through about six gallons of water for each gallon of milk, we bring the milk down almost to the water temperature. You see there is a connection so I can use brine in the lower half of the cooler if I ever want to."

Where the water is naturally warm or for any reason expensive or where getting rid of the waste water is a problem, it may be just as well to use brine in the lower half of the aerator, or even in all of it. But removing at least part of the heat in the milk with cold water is usually more economical.

"As soon as the milk is cool," he continued, "we dump it into the bottler tank, bottle and cap it immediately, and put the filled cases into cold storage right here."

He threw the heavy latch and swung back the thick, insulated door of a neat little storage room.

"It actually seems warm in there," I exclaimed.

"It is a lot warmer in there than outside on a night like this," he assured me. "Those thick walls keep out cold as well as heat. The milk never freezes in any weather. But seems plenty cold on a hot summer day."

"You see that tank up there," he went on, pointing to a galvanized iron box secured to the ceiling. That holds 35 gallons of calcium chloride brine and the refrigerating unit keeps it about 20 degrees. F. It makes a good reservoir of cold but it doesn't have enough square feet of cooling surface in contract with the air to take up the heat in here very quickly, so we also put in that fin coil."

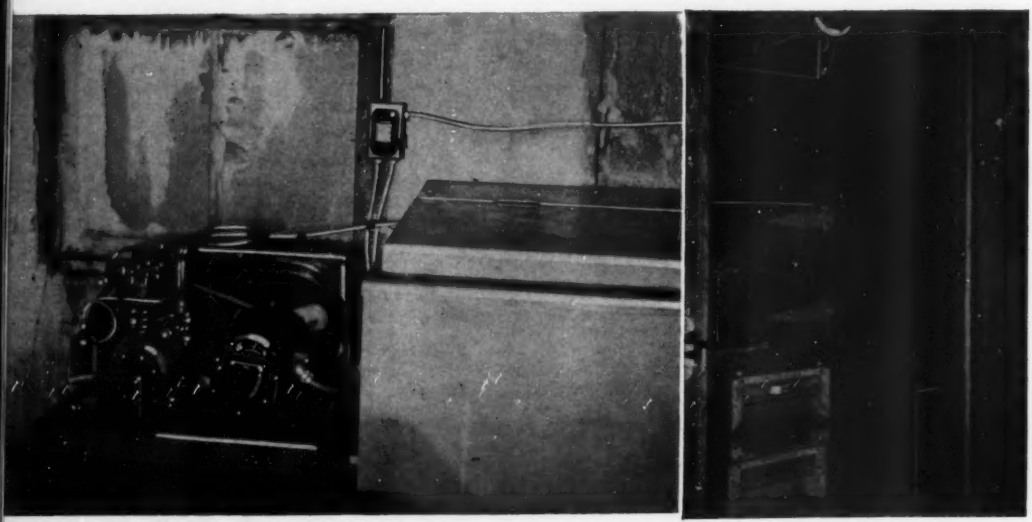
A fin coil is the exact opposite of a radiator. It is designed to present as much surface to the air as possible and to allow the air to move freely in contact with these cold surfaces. The fins that help to absorb heat from the air are thin metal plates, punched in the middle and pressed very tightly onto the tubes so they stand parallel to each other about half an inch apart.

Through the tubes of the coil the refrigerating liquid from the unit circulates to carry off the heat. Both the brine tank and the fin coil are placed close to the ceiling of the storage room where it would naturally be the warmest and where they are entirely out of the way.

"How much does the cooling and storage cost in time and labor?" I asked.

"Practical the whole process is automatic," he replied. "A thermostat here in the storage room

Left: The tank and compressor at the Libby farm. Right: Cold room for milk in cases. Note the fin coil at the top, and the outside loading door.



controls the compressor unit, making it run only enough to hold the temperature we want. Just two motors, one on the water pump and this one on the refrigerating unit, take most of the labor, all the guess work out of our milk cooling. Filling the aerator and washing it afterward are all the actual work we do for the sake of cooling."

"How about the power cost?" I persisted.

"We haven't it separately metered," he answered. "But from our total bill and our other uses we estimate that the cooling and storage jobs take about 100 kw. hrs. a month. And we know it's well worth what it costs. We try to produce clean milk of good quality. We can depend on electricity to keep it that way until the customers get it."

Advantages of Milk Cooling Realized

All three of these farmers sell on a market that demands—and pays for—high quality and low bacteria. The great majority, selling to cheese factories and condensaries are not offered the same financial reward, and may not yet be ready to make the same investment in cooling equipment. But some of them have very ingenious ways of improving the keeping quality of their milk without much cost or labor. They are using their heads to save their heels, and fatten their pocket books. My friend Bill Jefferson told me about one whose name I have forgotten, so I'll just call him Jones for short.

"Of course, Jones has water under pressure at the barn," said Bill. "And he uses it to start the cooling just as soon as the milk is drawn—even cools the can before he strains the first pailful. You see, the milk house is quite a distance from the barn, and in spite of all the rules about taking milk there promptly, he refuses to make the trip with every pailful. Instead, he keeps his barn as clean, well ventilated, and dustfree as possible and strains the milk into cans set at the end of the alley. So far, his practice follows pretty general custom, but right here is where the difference comes in."

"How can he cool milk right there in the barn?" I protested.

"Just listen, and I'll tell you," Bill retorted. "Jones took a piece of half-inch copper tubing and bent it into a circle big enough to slip over the top of a milk can, but small enough to rest on the breast. Then he drilled *very small* holes on one side of the pipe all the way around the circle and finished it off with a hose connection. At the end of his row of stanchions on the pipe to the water bowls, there is a faucet to which he connects this sprinkler ring with a few feet of hose.

"At milking time he slips the sprinkler ring over the neck of the first can before he puts on the strainer. When the first pail of milk is ready, he opens the faucet enough to let a nice even sheet of cold water run down the outside of the can *all the way round*. Then he strains the milk into that cold can."

"But one pail of milk wouldn't be in contact with the side of the can very high up," I objected.

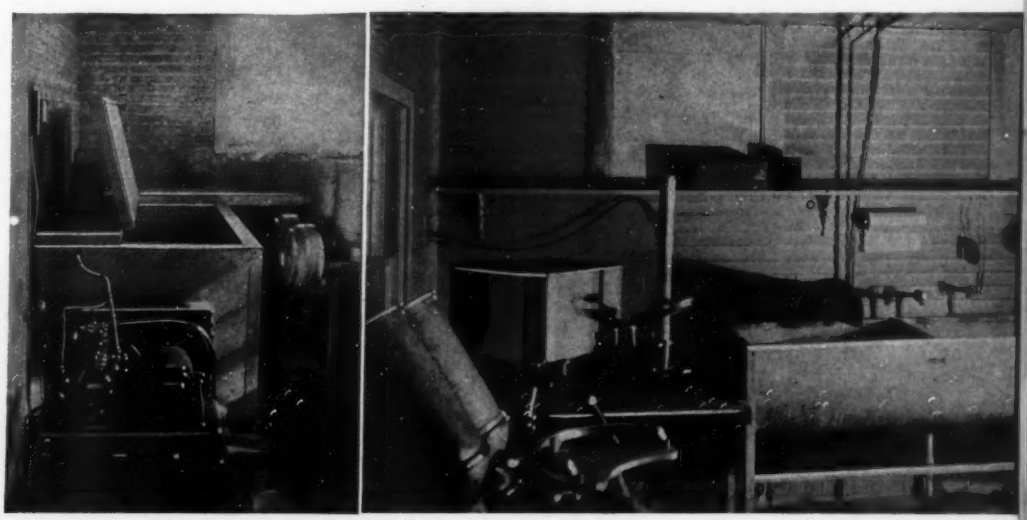
"That's right! I forgot to tell you," Bill explained, "how he makes the milk run down the inside walls of the can so it will be cooled by the water running down outside. The local tinner made him a flaring cone of smooth tin which he hangs a few inches below the center of the strainer. That deflects the milk in a thin sheet to all sides of the can instead of letting it stream quietly down in the middle."

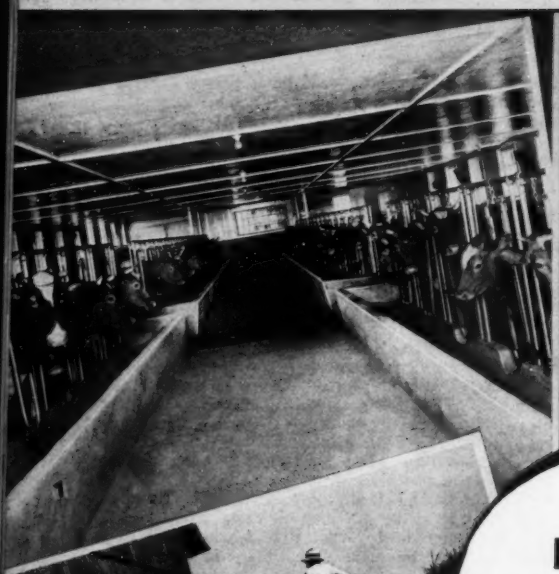
"It sounds practical," I agreed, "but what becomes of all that water?"

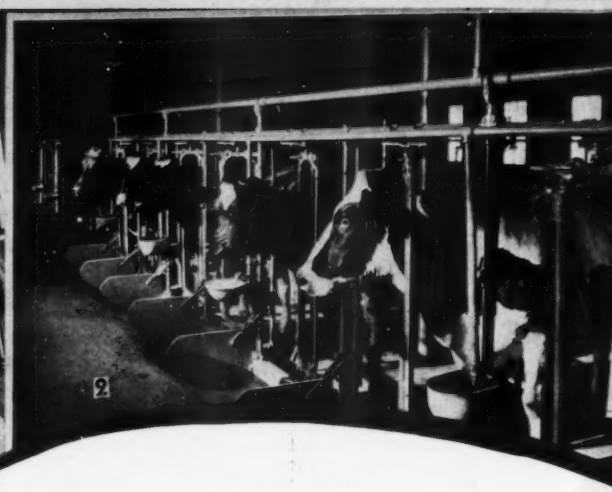
"It doesn't take as much water as you'd think," rejoined Bill. "There's no need to sluice water over the can any faster than it can take up heat from the milk. If a thin sheet of water covers the whole can and is several degrees cooler than the milk when it runs away, that's plenty. I

(*Continued on page* 21)

Left: Robert Eby's compressor and the tank it keeps cold.
Right: A simple bottler and capper and a convenient wash sink.







Here's how your neighbors put electricity to use

1. Modern dairy barn on Forge Hill Farm near New Windsor, N. Y.

2. Electricity adds to the comforts of this Ohio dairy herd.

3. The R. Houston milk house, Richmond, Mich., is equipped with milkers, cooling equipment and other modern electrical appliances.

4. Poultry house and flock of white leghorn fowl, Leona Farms, Cary, Ill.

5. A conveyor belt carries eggs from the hatchery to the packing room on this industrialized farm.

6. Turkeys are guarded by electric lights on the Lippincott farm near Marlton, N. J.

7. Electric motor and portable saw help E. G. Gust, Westville, Ind., pairs to his mowing machine

8. Grading eggs with electr erated machine in packing pla Short, Hamlet, Ind.

9. A well [illegible]quipp Warren T. McCray fa

10. Electric equipm drill, makes the farm with repair jobs.

11. The Wa ploy electrici

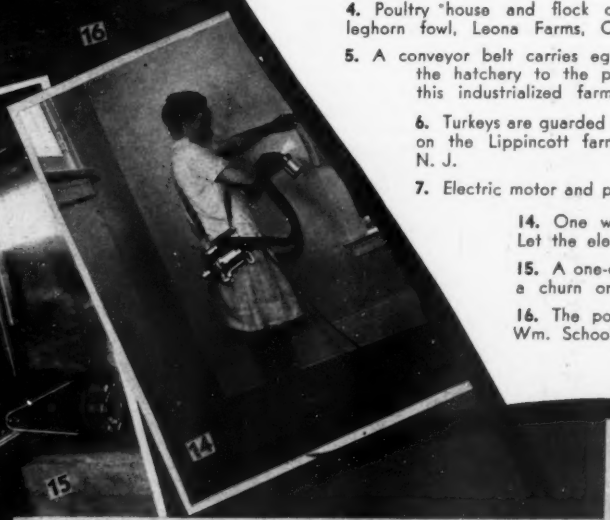
12. Bessie C Electric clipp milk producti

13. The Gra plant at Unio refrigerated.

14. One way of taking the work out of Let the electric paint sprayer do it for you

15. A one-quarter horsepower motor used to a churn on the Chas. Haack farm, Capa

16. The portable motor is the extra hired Wm. Schoof's farm in Michigan at threshi



rs

ville, Ind., make re-
g machine.

with electrically op-
acking plant of J. A.

uipp workshop on the
McCray farm, Kentland, Ohio.
c equipment, such as the
s the farm lad eager to help
jobs.

. The Walker-Gordon milk farms em-
oy electricity wherever possible.

. Bessie Cow is getting a hair cut.
ectric clippers are an aid to better
lk production.

. The Grand River Orchards storage
ant at Unionville, Ohio, is electrically
rigerated.

k out of painting.
it for you.

tor used to operate
arm, Capac, Mich.

xtra hired man on
at threshing time.

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If conditions require, begin orchard irrigation early so that the fruit in its formative stage will have an abundant supply of moisture.

GOOD CROPS in DROUGHT YEARS

By RICHARD BOONSTRA

WATER and electricity received more attention during the last ten years than any other form of power. In 1926, I visited a number of irrigation projects in California where they mix water with sunshine and call the place heaven. I remember two ranches trying to get along with gasoline engines and the ranch hands didn't brag about being in heaven.

Then one occasionally finds a lover of steam engines who is so attached to steam power that he can't bear to have them go off the place. And those of us who have worked with steam engines know only too well how reliable they are, but since the wife got her electric range and she bought a nice porcelain bathtub and an inside toilet for her husband's birthday, it has been difficult for her steam or gas engine lover to take advantage of all those modern conveniences wearing overalls that usually had more grease and oil on them than their power plants.

One California housewife who had been called a model by her husband before marriage, said to me—"Why should I put on a nice calico dress and have him going around looking like a blacksmith? Believe me, I'd much rather have his bird dog 'Gypsy' around the house, as you can pet her without getting all greased up." And so the uses of electricity in the farm home indirectly affect the older forms of power.

After John or Francis or Sam, the husband, has gone through a winter of hanging up his greasy pants in the entry way with the boots and rubbers of the rest of the family, and been compelled to wash his hands on the kitchen stoop, he casually visits around town for second-hand electric motors and reports his findings to the boss. She carefully explains that when they were buying the electric equipment for the kitchen, it had to be new, so why not follow the same policy in buying electric motors. Funny how we humans think—of course the pocketbook usually, in the mind of the purchaser, hasn't enough money in it to buy a new motor, so second hand it must be.

Situations like the one described come up every day. There are thousands of water pumps operating today that owners wish to have operated by electricity. Electric service has been made available on the premises and changed the whole completion of farming, if a farm can be said to have a complexion.

There are three types of pumps used in irrigation. The deep-well plunger or reciprocating type of pump, the vertical turbine pump and the horizontal centrifugal type of pump. If a new pump is purchased, the electric motor is a part of the entire unit and one doesn't have to worry. Every thing will be all right. However, if you are buying an electric motor for your present deep-

You can't beat Proof!

The NEW FRIGIDAIRE

WITH THE "METER-MISER"

MEETS ALL FIVE STANDARDS FOR REFRIGERATOR BUYING

and proves it!

●

PROOF 1 **LOWER OPERATING COST**

The electric meter *proves* how little current Frigidaire with the Meter-Miser uses. *Compare it with others.*

PROOF 2 **SAFER FOOD PROTECTION**

Frigidaire dares to build a Food-Safety Indicator into the *center* of the food compartment to *prove* that Safety-Zone Temperature is maintained throughout. *Compare it with others.*

PROOF 3 **FASTER FREEZING—MORE ICE**

The Thermo-Gauge *proves* Frigidaire's ability to freeze larger quantities of ice—faster. *Compare it with others.*

PROOF 4 **MORE USABILITY**

Wider, roomier, with Portable Utility Shelf, Full-Width Sliding Shelves, Double-Range Cold Control. Saves steps. Saves work. *Compare it with others.*

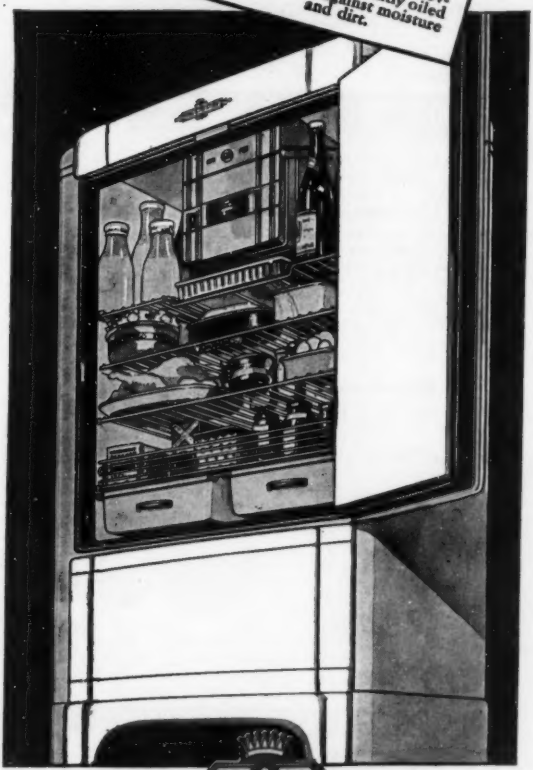
PROOF 5 **FIVE-YEAR PROTECTION PLAN**

Frigidaire's mechanical unit comes to you protected for Five Years against service expense. *Compare it with others.*

● To give you full 1936 value, the refrigerator you buy must meet *all five* of these standards. Some may *claim* to meet two or three. But don't rely on claims. Demand PROOF of ALL FIVE. That's what you get in Frigidaire with the remarkable new Meter-Miser mechanism. Your local Authorized Frigidaire Dealer invites you to come and see him demonstrate the proof right before your eyes. Remember—You Can't Beat Proof!

FRIGIDAIRE CORPORATION, Dayton, Ohio

Current Cost
MEET THE
"Meter-Miser"
IT CUTS CURRENT COST TO THE BONE
Quiet · Unseen · Trouble-free
The New Frigidaire's cold-making unit gives more cold for much less current cost. Built with only three moving parts, permanently oiled and sealed against moisture and dirt.



G M FRIGIDAIRE
MADE ONLY BY GENERAL MOTORS
Look for this Name-Plate

LET ME TELL YOU ABOUT
THE WORLD'S SIMPLEST ELECTRIC PUMP

Now... enjoy running water that's really TROUBLE-FREE

WESTCO—the world's simplest electric pump has only ONE moving part. And this ONE part operates without metal-to-metal contact. Think of it—Westco has—

NO Belts NO Valves NO Pistons NO Pounding

In fact, there are NO parts of any kind in a Westco which will wear and cause trouble.

Pumps 38% More Water

To ground floor or basement faucets, a Westco pumps 38% more water than its rated capacity *without increasing electric current consumption.* Guaranteed 28 ft. suction-lift (at sea level). Patented all-bronze Removable Liners assure lifetime service from pump casings. Rust-proof construction throughout. Beautifully finished in durable enamel. Quiet and cheap to operate. Never any expensive repair bills. Thousands of satisfied users. Sold on MONEY-BACK GUARANTEE.

Get FREE Catalog

Fill in the coupon below and mail it today! FREE colorful Catalog will be sent. WESTCO PUMP CORPORATION, Davenport, Iowa. Branches and Warehouses: *New York, Philadelphia, Chicago, Los Angeles and San Francisco. Dealers everywhere.*

AMAZING LOW PRICE!

Westco Pumps and Water Systems

275 *gallons per hour Westco. Others up to 3000 G.P.H. Larger tanks available. All Westcos fully guaranteed.*

MAIL COUPON BEFORE YOU FORGET

WESTCO PUMP CORPORATION, Davenport, Iowa. Dept. E-3. *Gentlemen: Without obligation, please send me FREE Westco Catalog.*

Name .....

St. or R.R. No. .....

Town .....

State .....

well irrigation pump, you better get out your old pocket knife, locate the name plate and scrape all the old grease off it. Don't try to wipe it off with your overall jacket sleeve, because those two figures, 3 and 8, will, in many cases, look alike; so scrape it perfectly clean. Then take a great deal of care in copying the information exactly as it is printed on the plate. Never mind how foolish the language seems to you—put down every letter and number. Then send that information to the pump company where they have engineers, who, by return mail, will give you complete recommendations on the power requirements for your pump.

I now must tell you of an experience I had on a truck farm operated by an enterprising Italian family of 14 vegetable growers. The head of the house had bought a second hand motor. The pump expert called in had three catalogs, but all had been made up years later than the pump, so we had to lay aside the data printed in the catalog and fall back on horse sense acquired on the farm we left to get an education. We said to Mr. Govianna, "Your motor is too small." He already knew that, he replied. We then began to think of the services rendered by our electric light and power companies, so to their office we went and got an engineer with instruments to measure the electric power it took to operate this pump. This was done by operating the motor (which was too small) for about ten minutes. With this information, Mr. Govianni bought the right size motor, and he has irrigated onions and peppers ever since.

Thousands of farmers do not know of the time and money spent by Pump Companies and the Utilities to render to their customers a much needed service, which only trained engineers can give.

It seems to me that the use of electric motors and pumps for irrigation, may, in the distant future, be largely reduced as a result of our dam building habit. When that time arrives we will have a man in a little tower overlooking those dams and by means of a radio system give the farmers irrigation water when it is needed. Needless to say, that time is still far away. In the meantime, we shall find the modern electrically driven pump a mighty paying proposition through insuring good crops no matter how little rainfall there may be.

This grower of strawberries employs the trench method of irrigation. Sufficient moisture means a larger and more profitable crop.

ELECTRICAL HOUSEKEEPING

Conducted by GAIL MEREDITH

Refrigerators Again

THE even, unchanging cold of an electric refrigerator is your assurance that the foods you store, the milk, the butter, the meat, the broth left over for tomorrow's supper, and the cereal saved from breakfast, will keep sweet and good long enough for you to get them eaten up.

It insures your vegetables the freshness, crispness good eating demands. It brings out the delicate flavor of fruits. It makes many foods taste better.

Plenty of room to store up a variety of foodstuffs.

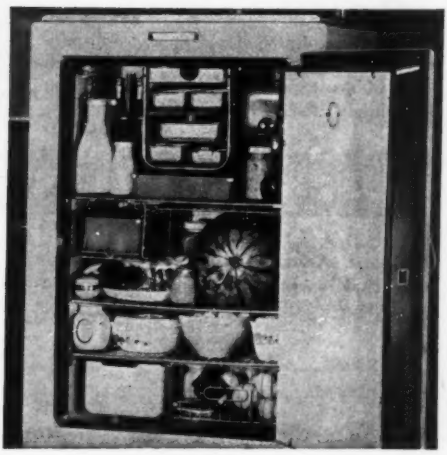
A refrigerator you need not wait on saves you work and time. With your food stored in a box right beside your kitchen table, not down cellar, or out in the spring house, or in on a pantry shelf, it takes far less travel to get a meal. And every trip takes time.

Because foods do keep well in the constant cold of this storage chamber, you can cook for several meals at once, and have each leftover as appetizing as though it were freshly made. Soups and sauces, desserts and vegetables, can be cooked once and eaten thrice, with judicious changes and well spaced intervals in the serving. You can make frozen salads and desserts and have them ready to serve with practically no work at all in the rush of meal time.

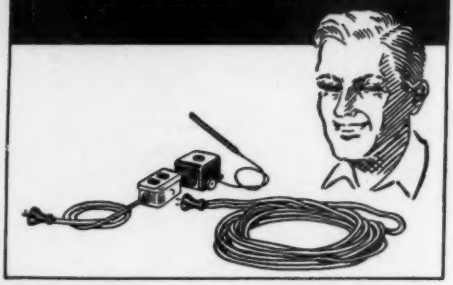
This saving of work spreads out through all the family too. The man of the house is not met as

Small, but compact and roomy.

Ice cold watermelon, just one of the tempting summer treats kept in readiness in an electric refrigerator.



"ENJOY A PRIVATE ELECTRIC HOTBED...



The effective, inexpensive way to grow your own!"

For more than five years, large market gardeners and commercial florists have saved labor and improved growing with G-E soil-heating equipment. Every user has made definite profits.

NOW AVAILABLE TO YOU

Now small growers and hobby gardeners can obtain many real advantages by means of a compact kit, all ready to plug into the nearest 110-volt a-c outlet. More vigorous plant growth and saving in time, care, and labor are but a few of these benefits.

COMPLETE KIT READY TO PLUG IN

The kit is complete with durable soil-heating cable and thermostat, for use in beds up to 36 sq ft—and this dependable kit costs only $16.00 plus postage. Full instructions accompany each kit. An additional cable length, at $4.50, makes it suitable for beds up to 75 sq ft.

You'll get prompt and speedy delivery by sending money order or check, together with coupon below, to General Electric, Schenectady, N. Y.

GENERAL ELECTRIC

General Electric Company
Dept. 6A-201, Schenectady, N. Y.

Please send me:

( ) The complete soil-heating kit, for $16.00
( ) An additional cable length, for $4.50
( ) More information (GEA-2241)

NAME.....

ADDRESS.....

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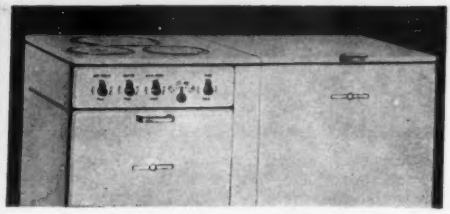


For a small kitchen, the range and refrigerator as one unit.

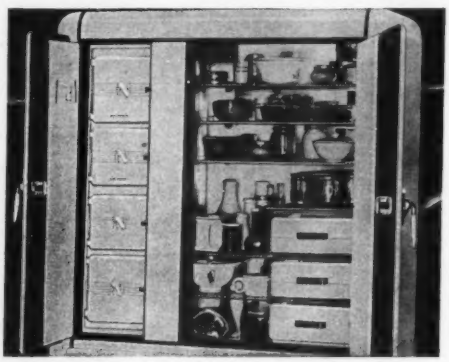
soon as he comes within ear shot with the hurried request.

"Please go down and get the butter and milk, John."

The hired man need not interrupt one of the best hours of the day to get ice out of the ice house, nor make a special trip to bring it from town when the hay is ready to cut. There are, we must admit, fewer trips to town for every one, because you do not have to buy food so often when you can store it in cold that will keep it safe and appetizing for a long time.

If time is money on your farm, these savings pay.

Storing leftovers safely



We Wonder

"What do you think of a man who will constantly deceive his wife?"

"I think he's a wonder."

Tackled Too High

Convict (reading newspaper): "Dere's justice for yer! A football player breaks two men's jaws and another man's leg and is de lion of de hour, while I gets ten years for only stunnin' an old guy with a blackjack."

—*Stray Stories.*

What He Remembered

Peevish Wife: "You think so much of your old football, you don't even remember when we were married."

Husband: "Don't I? It was the day Morgan College beat Preston 7 to 2."

Ask Father, He's Tried It

Blinks: "There are some things a man can't explain to a woman."

Jinks: "Yes, the tariff, the Einstein Theory, and what became of that five spot missing from his pay envelope, or why he stayed at the office until 2 a. m."

What's a WATT

Household Editor Gives Simple Outline for Determining Quantity of Electrical Energy Consumed in Terms of the Kilowatt Hour.

THE electric current that lights your lamps, that runs your motors and cooks your food is not measured off in inches with a tape line nor weighed by pounds on the sales in the granary. It comes neither by the dozen nor the gallon, but is measured by a unit of its own, the kilowatt-hour.

Because we use them every day and pay for them every month, it is a good idea to be on speaking terms with these kilowatt hours and their very close kind, the ampere and the volt.

Ampere is the unit of quantity, amount of current that flows through any electric appliance. Volt is a measure of the force behind it—the pressure that makes the current flow.

Watt, the Unit of Power

The product of an ampere and a volt, that is, of quantity of current and its pressure, measures the power of electricity. The unit of power is the watt.

Every piece of electric equipment and every lamp bulb is built to use a certain number of watts. Every time you turn a switch or push in a plug you are buying so many watts of electricity, buying them at so much an hour.

When a watt is used for one hour, you get a watt-hour of energy. But that is such a very small amount that you pay for it by the thousand instead of one at a time.

The Greek word for thousand was kilo. So a thousand watt hours is a kilowatt hour, and that is the unit of energy used in figuring your electric bills.

Whether you are shopping for irons or getting a lamp bulb, you are sure to run up against this matter of watts. Isn't it a good thing to be able to recognize them without blinking?

Money in Cool Milk

(*Continued from page* 13)

don't think Jones uses over 25 or 30 gallons of water for a 10-gallon can of milk. He just lets it run in the gutter which has a drain."

In a barn with a separate floor drain, it might be better to run the water into that. And if there were no drain, it would not be hard to place the can on a water-tight platform a few inches above the floor and conduct the waste water outside through a pipe or hose.

"He keeps the evening milk in a tank of fresh water over night, but the condensary truck comes along so early that there's no time for any further cooling of the morning milk. And he's never had a can rejected since he began cooling it right in the barn," Bill concluded.

That is the gist of the whole story. Like the farmers who use more complete equipment to meet more strict requirements, Jones relies on the cheap, dependable power of an electric motor to make clear money from cool milk.

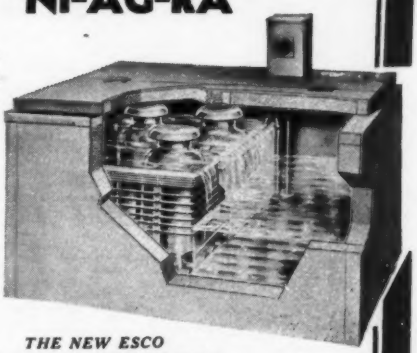
MILK COOLING SPEEDED UP
With the New ESCO "NI-AG-RA"

The New Esco "NI-AG-RA" with the AUTOMATIC WATER LEVELER is the very last word in Electric Milk Cooling Equipment. Icy cold water is maintained at constant level and circulates until your milk is cooled to proper temperature of 50° or below.

The New Esco "NI-AG-RA" is automatic and dependable. Proper cooling makes your milk more saleable. . . . Reduces your bacteria count . . . and will make more money for you .

An Esco Electric Milk Cooler will pay for itself from the very start. Thousands of dairymen have testified that an Esco Cooler is a money making investment.

WRITE TODAY . . . get FREE Booklet telling you how you can get better milk and make more money.



THE NEW ESCO "NI - AG - RA" Electric MILK COOLER GIVES—

Rapid Cooling of Milk to 50° or lower in one hour . . . Automatic circulation. . . . Constant water level up around neck of can . . . Highest efficiency . . . Economical operation.

ESCO

ESCO CABINET COMPANY

502 E. BIDDLE ST. **WEST CHESTER, PA.**

ESCO IS THE ORIGINAL PATENTED MILK COOLER

STERILIZE DAIRY UTENSILS and MAKE MORE MONEY!

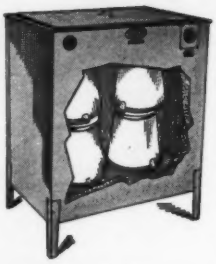
Here's all you want in a sterilizer at SENSATIONAL SAVINGS. $48. F.O.B. factory. Only ESCO management and materials could make such value possible.

Only $48.00 F.O.B. FACTORY

Sterilize pails, strainers and other dairy utensils this easy way. Kill bacteria. . . . Lower your bacteria count and GET MORE MONEY FOR YOUR MILK.

ESCO Electric Sterilizers combine thorough sterilization with complete drying, automatically. They cost so little to operate and mean such a big improvement in your milk.

You save time and labor.



Model S-1*
Larger sizes also available

ESCO

ORDER TODAY . . . or write for descriptive pamphlet.

ESCO CABINET COMPANY
500 E. Biddle St. West Chester, Pa.

Discover This SECRET

BEFORE YOU CHOOSE A FOOD MIXER

"Food Preparation" in your home means infinitely more than "mixing" or "beating." There is just as much difference between an electric Food Preparer built to master EVERY food preparing task—and devices primarily meant for limited service.

Here's the secret of buying satisfaction in food preparing equipment. Understand the difference! THERE IS ONLY ONE KITCHENAID. KitchenAid is a Food Preparer — not just a "mixer." It prepares your meat dishes, potatoes, salads, rolls, pies, cakes, bread, vegetables, desserts, beverages and more—swiftly, marvellously! Learn how it saves you money! How it gives you extra hours! Discover how easily you can buy a genuine KitchenAid now!

SEND FOR FREE BOOK!

When you make this important purchase, know all the facts. Send immediately for the valuable, free booklet, "How to Choose a Food Mixer." No obligation. Use coupon now.

KitchenAid
ELECTRICAL FOOD PREPARER FOR THE HOME

The Kitchen Aid Mfg. Co., Dept. E-3, Troy, O.
Please send me your free booklet, without obligation.

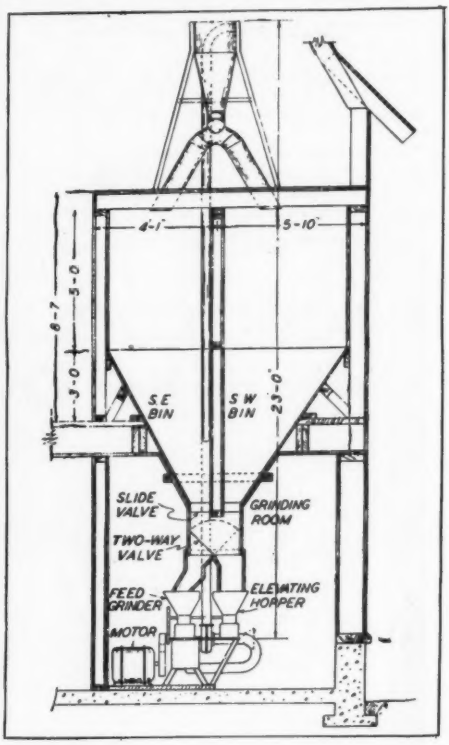
Name .....
Address .....
City .....

The Bin Method of Feed Mixing

By Hobart Beresford

THE grinding and mixing of home-grown grain on the farm is recognized by most dairymen and stock feeders as an economical practice. Too often, however, it includes the mixing of large amounts of ground feed by the hand-scoop method.

In the usual type of hammer mill and overhead storage of ground feed the elevating ability of the blower on the feed mill can be used with a system of transfer bins for the feed mixing. All that is needed is another hopper with agitator connected to the blower so that the grain or ground feed can be elevated to overhead bins without passing through the grinder. Then by letting the grains that are to be mixed run into this hopper at the same time they can be thoroughly mixed while being transferred to another bin.



There is such an installation at the University of Idaho. Barley and oats are ground together at the rate of 800 pounds per hour and using about 10 kilowatt-hours per ton. A thousand pounds of feed are mixed per hour by the bin method using 4.5 kilowatt-hours per ton with a 7½-horsepower electric motor.

The bin method of feed mixing saves labor, requires very little attention, and can be done at chore time.

ON THE AIR

Conducted by JEROME J. HENRY

Radio Marriages—How They Happened

NOW its Leap Year and time to tell about how those radio marriages happened to take place.

Burns and Allen met backstage in a theatre in Union City, New Jersey.

Teddy Bergman met his wife, Finette Walker, in the CBS studios in 1929.

Eddie Cantor and his wife, Ida, were childhood

Nancy Flake, radio soloist, was seriously contemplating a stage career when her voice won her an audition and an immediate radio contract.

sweethearts living in the same neighborhood.

Stuart Allen met his future wife on a boat going to Albany, New York.

Frank Crumit and Julia Sanderson met during a run of the musical comedy, "Tangerine," in which Julia was leading lady.

"Lazy Dan" Kaufman met Belle Brooks, a well known entertainer, in a music publisher's office.

Deems Taylor at one time in his varied career was a lifeguard and the only woman he ever saved from drowning he married.

Walter O'Keefe was singing "The Face on the Bar Room Floor" when a pretty blonde girl laughed. Walter fell in love at first glance, met her, and changed her name from Roberta Robinson, of musical comedy fame, to Mrs. O'Keefe.

• • •

Durante Calls Radio Start "Murder"

JIMMY DURANTE thought his first radio broadcast about ten years ago was his last.

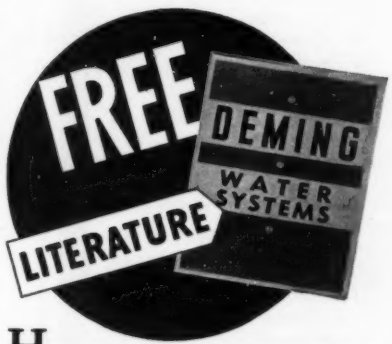
"We never got another call," says the comedian, speaking of a guest appearance made before the microphone with Clayton and Jackson, his former partners in comedy.

"It was murder," Schnozzle explains. "We got an offer to go on the air for a cigar company. They had Freddie Rich's orchestra. He had 40 men. We matched him with six of our own. We had nine men in the band at our night club, but laid off three because they didn't have their pants pressed. We wanted to make an appearance.

"We start off by singing 'Jimmy, the Well Dressed Man.' Did we murder that program! The Rich orchestra never played a song. We told a dozen jokes, did three numbers, got stuck for material, then we repeated back to the start.

"They were trying to get us off. We wouldn't go. They were saying. 'You had enough.' I was saying, 'Wait a minute. The best stuff is coming now.' That was our auspicious debut on the radio. We were there for half an hour solid. We never got another call."

Today, however, Durante, Donald Novis, Gloria Grafton, Arthur Sinclair and others spend long hours in script and microphone rehearsals for every Tuesday performance of their show over NBC stations. There can be no clowning in a program involving almost 100 persons, including a huge band and a chorus, but Durante enjoys being "Brainy" Bowers in Jumbo for all the efficiency radio has attained since that first broadcast of his.



Here is the Marvelette, the quietest operating shallow well water system on the market. This is only one of the many dependable Deming Shallow and Deep Well Pumps and Water Systems.

Write today for FREE catalog. It contains information you should have before you purchase any water system.

$52.75

F. O. B. Salem, O.

Ask your dealer for details about the Deming Easy Payment Plan

THE DEMING CO.

32 BROADWAY • SALEM, OHIO

Pump Manufacturers Since 1880

YOURS *for the Asking!*

HERE you'll find a list of the more important applications for electricity on the farm and in the home. All these have withstood the test of years of service on money-making farms.

Which of these will perform operations on which you need help? Be sure to study our advertising pages, for these manufacturers are best equipped to help you.

Complete details about any of these or the hundreds of other applications for electricity can be obtained by merely filling out and sending us the coupon at the bottom of this page. We are glad to advise qualified manufacturers of your interest—and they in turn are glad to send you the desired information.

FOR MODERN HOME-MAKING

—Better Sight Lamps
—Clocks
—Clothes Washers
—Dishwashers
—Flat Irons
—Floor Polishers
—Food Preparing Machines
—Ice Cream Freezers
—Ironing Machines
—Radios
—Ranges
—Range Replacement Units
—Refrigerators
—Sewing Machines
—Table Cooking Appliances
—Tea Kettles
—Vacuum Cleaners
—Water Heaters

FOR BETTER FARMING

—Animal Clippers
—Automatic Water Systems
—Bottle Washers
—Bunch Tyers
—Burglar Alarms
—Brooders
—Churns
—Corn Shellers
—Cream Separators
—Dairy Sterilizers
—Drills
—Drinking Fountain Warmers
—Electric Lawn Mowers
—Ensilage Cutters
—Feed Grinders
—Feed Mixers
—Floodlights
—Hay Hoists
—Incubators
—Insect Traps and Screens
—Light for Plant Growth
—Milk Coolers
—Milking Machines
—Motors
—Paint Sprayers
—Septic Tanks
—Sheep Shears
—Soil Heating Equipment
—Soldering Irons
—Stationary Spray Plants
—Thermostats
—Time Switches
—Tool Grinders
—Ultraviolet Light
—Vegetable Washers
—Ventilators
—Woodworking Machinery

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ELECTRICITY ON THE FARM
24 W. 40th St., New York

Without cost to me, please have the manufacturers send complete information on the following Electrically Operated Equipment which I am thinking of buying.

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My name is.....

Address .....

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I get my electricity from.....

..... 3-36

Questions and Answers

Conducted by H. J. GALLAGHER

Wire Size for Extension Cord

Question: *We have a five horsepower motor. Would it be practical to use a portable cord of 150 feet from motor to outlet" What size wire would be required.*

Answer: It would be practical to use a portable cord 150 feet in length for a 5 horsepower motor. The size of wire in the cord would depend largely upon the distance the power outlet was from the main distribution and the size of wires leading to the outlet.

A 5 horsepower motor operates on 220 volt service and requires current at the rate of about 30 amperes. Number 8 wires could be used up to a distance of 150 feet, No. 6 to 300 feet, No. 4 to 500 feet, No. 2 to 800 feet.

If the power outlet was 150 feet from the main distribution and the cable was plugged in at that point, it would be the equivalent of 300 feet from the motor and the service wires and cable should be No. 6 wires.

Remedying Motor Trouble

Question: *There is a* 1-4 *H. P. motor, single phase of the split phase induction type on my washing machine. The trouble now is that it will not start with or without load. However, when I help to start it by hand it will run as good as it ever has. Please tell me what to do to remedy this condition so the motor will again develop the necessary starting torque.*

J. F. H.,

Answer: There are two windings on a split-phase motor, a starting winding and a running winding. The starting winding is effective only during the starting period and as the rotor approaches running speed the circuit of the starting winding is opened and the motor continues to operate as an induction motor on the running winding.

Consequently, when a split-phase motor refuses to start but will run if mechanically brought to induction speed, the trouble is in the starting winding. The starting winding may have been burned out if subjected to a heavy starting load, or one of the connections of the starting winding may be loose. In some types of split-phase motors the starting windings are attached to carbon brushes and one or both of the brushes may be worn too short for good contact or they may have become stuck in their channels.

Hazards of Range and Refrigerator

Question: *I would like to know more about electric stoves and refrigerators. Some people think they are dangerous, for example, catching on fire.*

L. M.

Answer: Electric stoves and refrigerators are two major pieces of equipment that combine all of the desirable features of safety, durability, cleanliness, efficiency and economy of operation.

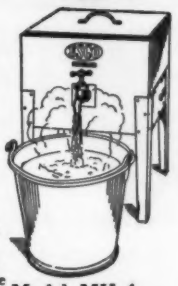
The fire hazard associated with the electric range is much less than by any other method of cooking with which I am familiar. The common fire haz-

HOT WATER
Quickly . . . and At Little Cost!

Get this New ESCO ELECTRIC WATER HEATER for dairies. Will heat 3 gallons of 60 degree water to 170 degrees in one hour.

It costs so little to GET HOT WATER THIS EASY WAY! No trouble . . . No labor . . . SAVES TIME AND MONEY. Just what you want for washing pails, strainers and other milk equipment. ALL THE HOT WATER YOU WANT WHEN YOU WANT IT.

Only $18.00 F.O.B. FACTORY



ESCO Electric Dairy Water Heaters are built in several sizes. They are durable and efficient. Easy to use and COST BUT LITTLE!

ESCO

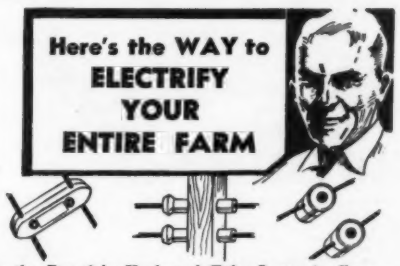
Order TODAY . . . or write for descriptive Bulletin

Model MH-4

ESCO CABINET CO.

501 E. Biddle St. West Chester, Pa.

Here's the WAY to ELECTRIFY YOUR ENTIRE FARM



Use the Porcelain Knob and Tube System! For ECONOMY combined with SAFETY! With this economical system the dream of every farmer can come true. With this system your entire farm, including barns, yards and all, can be electrified at a cost within the limits of your pocketbook. For the farm, this system is the most satisfactory . . . it costs LESS PER OUTLET, is the quickest to install . . and lasts forever! It is safest, too.

The Chief Inspector of a large insurance company says— "It is the safest of all types of wiring . . . I would much prefer to have my home wired with knob and tube construction than any other type.

Don't put off the labor savings and conveniences that electricity brings to you. . . See your local electrical contractor, or write Dept. A.

USE Porcelain Safety Cooking

STANDARD ELECTRICAL PORCELAIN MANUFACTURERS

201 N WELLS ST., CHICAGO, ILLINOIS

ards from methods other than electric are live flame, overheated pipes, overheated stoves and explosives. The electric range has no piping, no live flame nor is there any danger from gas. Practically the only fire hazard that could be associated with the electric range would result from extreme carelessness in leaving inflammable material such as newspapers on the burners or in permitting liquids of an inflammable nature to become overheated or boil over. Improper installation of a range where the conductors are too small for the electric demand could cause trouble.

I have never known of a fire to have been caused by an electric range while thousands of fires are annually caused by other cooking units.

The electric refrigerator has no heating elements that should ever cause fire under any consideration.

Now, Where Do I Go From Here?

Raise Him under a TRUMBULL Electric Brooder

He'll Grow Faster and Feather More Evenly

BECAUSE—Nearest to Nature
Perfect temperature control
Fresh air without drafts

The TRUMBULL Electric Brooder is SAFE—no fire hazard. Economical to operate—current costs less than coal. It costs you nothing to investigate ELECTRIC BROODING. Write for "Better Chicks" booklet, today.

The TRUMBULL ELECTRIC MFG. CO.
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A GENERAL ELECTRIC ORGANIZATION

Fastest, Finest! Electric
ANIMAL CLIPPER

Preferred the world over for its greater speed, ease of handling, rugged, lasting durability. Has 2 to 5 times as much power as other clippers of this type.

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CLIPMASTER

Exclusive Stewart design ball-bearing motor is air cooled and entirely encased in the insulated EASY-GRIP handle that is barely two inches in diameter. Completely insulated—no ground wire required. The fastest clipping, coolest running, easiest-to-use clipper for cows, horses, dogs, mules, etc. Stays sharp longer. A $25 value for $16.95 complete. Slightly higher west of Denver. 100-120 volts. Special voltages slightly higher. At your dealer's or send $1.00. Pay balance on arrival. Send for FREE catalog of Stewart electric and hand power Clipping and Shearing machines. Made and guaranteed by Chicago Flexible Shaft Company. 5524 Roosevelt Road, Chicago, Illinois. 46 years making Quality products.

CHROMALOX

Super-Speed ELECTRIC RANGE BURNERS

will make a new, modern, fast-cooking, economical range of your old one—and will fit it, whatever its make.

Write us for details.

EDWIN L. WIEGAND CO., 7580 Thomas Blvd., Pittsburgh, Pa.

ASK YOUR POWER COMPANY for a DEMONSTRATION

What's New

Reviewed by T. E. HIENTON

Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request. Address your request to What's New Department, ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Self-Renewing Mercury Fuse

Blowing a fuse, when the iron cord becomes worn or the washer starts hard, often delays the laundry work of the farm housewife. Such occasions are usually rare but may be very irritating unless the homemaker has learned how to test for a burned-out fuse and replace it. Too frequently there is not any extra fuse available and dangerous makeshifts are employed, such as placing a penny behind the blown fuse. Such practices should never be followed, since the very purpose, for which the fuse is installed, is defeated.

A new type of fuse announced by a middle-western manufacturer, eliminates the necessity for a new fuse when one is blown by an overload on the circuit. This fuse, after being blown, is reset by removing it from the socket, and with the contact point down giving it a downward sweep with the snap of a wrist. A globule of mercury, which is confined in an air-tight chamber, is reset by this action so that it resumes its contact position. There is no replacement of parts since it is operated altogether mechanically.

CLASSIFIED ADVERTISING

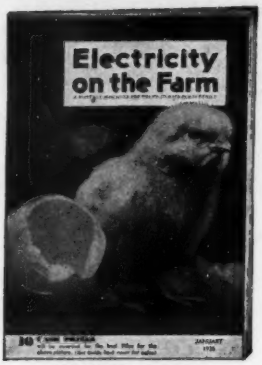
ELECTRIC BROODING WILL SAVE YOU TIME AND MONEY *IF* THE RIGHT EQUIPMENT IS USED. Write for free booklet on "Electric Brooding Facts" published by the pioneers of electric brooding. Lyon Brooders are used thru-out the nation under all climatic conditions. Latest catalog describes the *new patented fan ventilated Lyon Improved Brooder.* Time switches, fountain warmers, alarms, heating and thermostatic supplies for homemade equipment, etc. Get your copy. Dept. EF, LYON ELECTRIC CO., San Diego, Calif.

CHECK THESE ADVANTAGES of WARNER ELECTRIC BROODERS: Natural Ventilation, giving Dry Floors under canopy—Ample Head Room—Foolproof Switch—Triple Insulation. Built to performance standards, not to meet price. INFORMATION FREE; write WARNER BROODER & APPLIANCE CO., NORTH MANCHESTER, INDIANA.

The PARAGON POULTRY TIME SWITCH is scientifically designed and approved by state universities. It provides automatic control both morning and night and DIMS THE LIGHT AT NIGHT to allow the hens to return to roost. Low price and UNCONDITIONALLY GUARANTEED. Write for full information today. PARAGON ELECTRIC COMPANY, Van Buren and Dearborn Sts., Chicago, Ill.

COVER TITLE CONTEST

Awards for January



JANUARY COVER

First Prize — $20

"Just out—prospects fine,
Accomplished by the power line."

MR. C. E. FERGUSON, R.F.D. 1, Shawnee, Okla.

Nine $2.00 Cash Prizes

"Electricity hatched me, and will brood me each day;
When I'm older, more eggs it'll force me to lay."
MRS. J. E. THOSSON, Bumpass, Va.

"Safer, cleaner, fewer risks—
The electric hen makes healthy chicks."
MRS. JESSIE A. CRISTMAN, R.F.D. 1, Herkimer, N. Y.

"Bigger hatches—better fryers,
Electricity makes profits higher."
RUTH GNEITING, R.F.D. 1, Box 45-A, Rigby, Idaho

"A chick's first break—
Electricity to incubate."
MRS. MARVIN F. MILLER, R.F.D. 4, Lafayette, Ind.

"Profits repeat again and again
When chicks are hatched in an 'electrical hen'."
MALCOLM T. MEEK, R.F.D. 6, Engle Road, Ft. Wayne, Ind.

"Perfect control of electric heat—
Makes these incubator chicks hard to beat."
MRS. B. A. JOHNSON, Wallingford, Vt.

"Hens hatch 'em too early or too late
Electricity hatches 'em up-to-date."
MRS. J. D. WALLACE, R.F.D. 2, Princeton, Ky.

"Born within an insulated pen,
A healthy chick from an electric hen."
MISS LUCILLE WILKINS, Martin, Ohio

"To hatch and hover an early nest
The electric mother has proved the best."
HARRY C. McDOWELL, R.F.D. 1, Nottingham, Pa.

Why Not Participate in This Month's Contest?

HERE ARE THE RULES

Ten cash prizes will be awarded for the 10 best titles for the picture on the front cover of this magazine.

The first prize will be $20 cash, and nine second prizes of $2 in cash will be awarded.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Titles should be brief—the shorter the better—and short slogans will be given preference over rhymes.

All members of the farm family to whom this magazine was sent may submit titles, but each contestant may submit only one title.

Question "A" must be answered.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 6 North Michigan Avenue, Chicago, Illinois, before April 1st.

Winning names and titles will be announced in the May issue.

Send your title on the coupon or make out a similar form on a plain sheet of paper or government postcard.

My title for the March Front Cover picture of ELECTRICITY ON THE FARM is.....

.....

.....

.....

(a) Fill in brand name of any of the following ELECTRICALLY operated appliances you now have.

Range	Clothes Washer	Radio .....
Refrigerator	Vacuum Cleaner	Brooder .....
Water Pump	Milking Machine	Tool Grinder .....

My name is..... R.F.D.....

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An unfailing supply of running water—clear, cool, sparkling—fresh—means more to the farm home than any other single convenience. Water for drinking, for cooking, for dishwashing, for the laundry—water for the lawn and garden—for horses, poultry, all farm stock—for fire protection—some water is an urgent need every hour of the day.

Both your farm and your farm family will be benefitted by the installation of an adequate automatic need every hour of the day.

ASK YOUR POWER COMPANY

or your favorite water system dealer for any further information that you need. Or, if you prefer, address your inquiries to ELECTRICITY ON THE FARM, 24 W. 40th St., New York, or 6 No. Michigan Ave., Chicago.

c